



YPAR in School

Hypothesis Development

Lesson adapted from:
YPAR Hub. (n.d.). *Hypothesis Development*. <http://yparhub.berkeley.edu/define-issue/hypothesis-development/>



Objectives

- To identify the factors that influence the chosen topic
- To develop hypotheses about the relationships between independent and dependent variables

Activity 1: Hypothesis Sheet

Materials

- Flip chart, whiteboard, or chalkboard
- Markers, dry erase markers, or chalk
- Construction paper
- “Hypothesis Sheet” handout (1 for every 3 participants)
- “Factors Influencing the Issue” handout (1 per every 3 participants)

Pre-Activity

Have students answer the following questions in their process journals:

- What do you think is the main cause of the issue that you have identified?
- Why do you think that is the main cause?

(Continued next page)



YPAR in School

Hypothesis Development

Activity 1: Hypothesis Sheet, continued

Activity

Today we are looking at issues and causes. For our issue, X, there can be many causes, or independent variables, that influence it, either for the better or for the worse. We are also going to practice making a hypothesis. A hypothesis is a best guess, based on all the information you have, as to why one thing might cause another. We can conduct research to find out if our hypothesis is true.

Draw the chart from the “Hypothesis Sheet” so they can understand the terminology. Start with big, blank shapes. As you explain, fill out the chart.

Imagine your issue (or your dependent variable) is “Dropping Out of School.” Although there are many reasons someone might drop out of school, one of them might be “fights with other students.”

Now you have a dependent variable (dropping out of school) and an independent variable (fights with other students). The last step is to come up with a hypothesis, or an explanation of how fights with other students might lead to dropping out of school. Again, there could be many guesses. Maybe one is “fights always lead to a three-day suspension, so they are out of school too often to pass.” In this instance, let’s imagine another reason: fights with other students leads to dropping out because they don’t want to get hurt in a fight, so they stop showing up. This information goes into the squares.

(Continued next page)



YPAR in School

Hypothesis Development

Activity 1: Hypothesis Sheet, continued

Activity (continued)

We are going to practice this process right now. Divide the full group into teams of three. Give each team a Hypothesis Sheet, and let them work together to complete it. When everyone is done, share results and compare answers.

Have the teams share their results with the entire group.

List all of the causes (independent variables) identified on a flip chart/whiteboard/chalkboard.

Activity 2: Factors Influencing the Issue

PART 1: Establishing Causes

In the same groups, we are going to focus on our issue. The first step is to determine what we think the causes are. As a team, fill out the “Factors Influencing the Issue” sheet. Do not make hypotheses yet.

Once they have listed potential causes, have them share back their starred choices. List those on the board — along with the frequency. The list should show how many people wrote that cause AND how many people starred that cause.

(Continued next page)



YPAR in School

Hypothesis Development

Activity 2: Factors Influencing the Issue, continued

PART 1: Establishing Causes (continued)

Through consensus, have the students identify three to five causes that are the most important. If you can, lean toward fewer causes rather than including many.

PART 2: Establishing Hypotheses

Still in groups, have each group decide on a hypothesis for that cause. Share back the different hypotheses and come to consensus on which hypothesis seems most likely, or if you aren't sure, which hypotheses you want to investigate further.

PART 3: Making the Research Model

Once you have finalized your research model, have participants make a large scale model which you will put up in your room. Use construction paper cut into a square to represent the issue (dependent variable), circles to represent the causes (independent variables), and strips (hypotheses of the relationships between the two). Make sure to write large enough to be read from anywhere in the room.

You will find that you need to refer to it frequently during the rest of the project. Throughout your research, this model might change as you find out that different causes are more important and whether your hypothesis is correct.



YPAR in School

Hypothesis Development

Reflection

In their process journals, have students respond to the following prompts:

- How was that experience? Easy? Hard? Confusing?
- Did we have similar causes? Similar hypotheses? Why do you think we have the same hypotheses? Different hypotheses?
- From the list of causes, which causes are the most important?
- How does each cause influence the issue?
- Was it difficult to explain the relationship between the cause and the issue?

Summarize

This is the process that all researchers go through. For our issue, we first have to decide what the most important causes are — and we might have to do research to do that part. Then, we make a hypothesis, and do research to check that out. Once we know if the relationship is true, then we can work to solve the problem.

Lesson adapted from: <http://yparhub.berkeley.edu/define-issue/hypothesis-development/>



YPAR in School

Developing Hypotheses

In your group, look at the Dependent Variable. First, come up with several reasons for why this might happen. Put all of those in the circle (Independent Variable). Then, for each one, add your hypothesis on the arrow...why you think one thing might cause another.

**Independent Variable
(cause)**

**Dependent Variable
(issue)**

Hypotheses





YPAR in School

Factors Influencing the Issue

Your task is to brainstorm a list of things that you think influence your issue. Make sure each cause is clearly different from the others. Put the reasons why each of the causes is important in the second column.

	Cause (Independent Variable): List each cause and define it	Hypothesis: Reason/Explanation for the cause
1		
2		
3		
4		
5		
6		